

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(s):	Korpela	CONF. NO.:	9028
SERIAL NO.:	10/030,286	ART UNIT:	2616
FILING DATE:	01/07/2002	EXAMINER:	Juntima, Nittaya
TITLE:	Method For Transmitting A Sequence Of Symbols		
ATTORNEY			
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Pre-Appeal Brief Request for Review

This is in response to the Final Rejection mailed 25 March 2008. A Notice of Appeal is being filed concurrently herewith.

The Examiner has made the following errors in the Final Rejection of 25 March 2008 (paper no. 20080310).

1. The Examiner states in the first paragraph on p. 3 of the Final Rejection that Alamouti discloses "frame of a certain number of consecutive symbols" as recited in claims 1 and 17. For a rebuttal argument see the response of January 7, 2008, page 10.

In addition, the Examiner states in section A on p. 8 of the Final Rejection that the symbols shown in Table I (col.4, lines 20-24) must be transmitted over a period of time since they cannot go on indefinitely, and therefore "a frame...must be constructed" (p. 3, first paragraph). He also states on p.8, paragraph A, that the present claims are not

limited to exclude the teaching of Alamouti. However, Table I shows a series of dots after the last transmitted symbol ($t+5T$). Thus the sequence could very well be non-periodic and go on indefinitely.

It is well settled that:

"To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *Continental Can Co. USA Inc. v. Monsanto Co.*, 20 USPQ2d 1746, 1749.

Here, as explained above, the frame recited in all independent claims is not necessarily present, and certainly not a frame of a certain number of consecutive symbols as recited in claims 1 and 17. Nor would such a frame be recognized as present by persons of ordinary skill. Thus there is no need for the claims to additionally exclude the teaching of Alamouti since they already do so.

2. The Examiner states in the third paragraph on p. 3 that Alamouti discloses "...the transmission of each symbol of the sequence of symbols with a certain transmission pattern that indicates through which transmission antenna each transmitted symbol is transmitted..." as recited in claims 1, 12, 13 and 17. For a rebuttal argument see the response of January 7, 2008, pp. 10 and 11. Further, in section B on p. 9 of the Final Rejection the Examiner states that symbols S_0 and S_1 are respectively transmitted by antennas 11 and 12 in time slot t , the symbols S_2 and S_3 are respectively transmitted by antennas 11 and 12 in time slot $t+2T$, etc. However, this does not indicate through which antenna each transmitted symbol is transmitted as recited in all of the present independent claims.

3. The Examiner states in the fourth paragraph on p. 3 that Alamouti discloses "...starting the transmission of the sequence of symbols from a predefined antenna..." as recited in claim 1. Alamouti names $\{S_0, S_1, S_2, S_3, S_4, S_5, \dots\}$ as his sequence of signals. But the transmission of Alamouti's sequence begins by simultaneously transmitting the first pair of the sequence. It is impossible to say that the transmission would have started from the presently claimed "...a predefined antenna..." because the transmission simultaneously starts from two antennas in Alamouti.

In section C on p. 9 of the Final Rejection the Examiner states that "a predefined antenna" does not exclude the situation where more than one predefined antenna is used. However, it is respectfully submitted that, as stated above, if there are only two antennas present as in Alamouti, and they simultaneously transmit, then there is no such thing as a "predefined" antenna.

Note that claims 12 and 13 recite the similar language of "...an indicator for the indicating the antenna from which to transmit the first symbol belonging to the sequences...". It is submitted that "the antenna" is singular.

4. The Examiner states in the fifth paragraph on p. 3 that Alamouti discloses "...enabling a receiver to associate a correct transmission antenna specific channel coefficient with each transmitted symbol by starting the transmission pattern from the beginning in the beginning of each frame" as recited in claims 1, 12, and 13. For a rebuttal argument see the response of January 7, 2008, pages 11 and 12.

The Examiner further states in section D on pages 9-10 that Eq. (3) in Alamouti associates the channel coefficients h_0 and h_1 "with the received signal $r(t)$ comprising the signals s_i and s_j transmitted from associated antenna 11 and antenna 12 at time slot t ". In fact, Alamouti's receiver receives *something* during a time slot, which *something* is a combination of what was transmitted through the first antenna and what was transmitted through the second antenna. Alamouti's receiver *does not need* to make

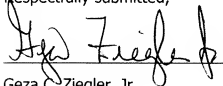
any difference between the channel coefficients h_0 and h_1 because his special way of negating and conjugating the symbols between time slots ensures that for each received time slot, the estimate calculated from the received payload signal is completely symmetrical with respect to the channel coefficients. Alamouti's special form of handling the transmitted symbols means that associating a correct *transmission antenna specific* channel coefficient with each transmitted symbol (which is one of the presently claimed features in all independent claims) is unnecessary.

5. In section F on pages 10-12 of the Final Rejection the Examiner states that "Nowhere in MPEP 2143.01 states that it would not be obvious to modify the prior art to arrive at the claimed features because the prior art is for different problem than the invention". However, in MPEP 2143.01, Rev. 6, Sept. 2007, p.2100-139, right column, first full paragraph, it is stated that the "nature of the problem to be solved" is to be considered when modifying a reference citing *Ruiz v. A.B. Chance Co.*, 69 USPQ2d, 1686, 1690. Also the Examiner cites *In re Rose*, 105 USPQ 237, for the proposition that a change in length is not patentable. However, the facts therein relate to a lumber package, where changes in the length are predictable. It is respectfully submitted that in the complex presently claimed methods, apparatuses, networks elements and computer program products, the results of a change in the length are not predictable.

Thus, it is respectfully submitted that many essential elements need for a *prima facie* rejection under 35 U.S.C. 102(e) and 103(a) are lacking, and the rejections cannot be sustained.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



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15 May 2008
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